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January 16, 2007

Ms. Polly Lowry
Sr. Engineering Geologist
Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

RE: Comments on the Tentative Waste Discharge Requirements General Order for Existing Milk Cow Dairies.

Dear Ms. Lowry:

I am an agricultural engineer working for a small consulting company, JMLord, Inc, in the central valley. My primary responsibility is to work with confined animal facilities to address waste storage issues, whole farm nutrient management, and other associated environmental issues. I have been working in the valley for about a year, primarily with the dairy industry.

To give you some background and confidence in my comments, I am originally from North Carolina, where I worked primarily with the swine industry to address the very issues the Board is seeking to address. I also was involved in the implementation phase of a permit system very similar to what the Board has suggested while working for the NC Division of Soil and Water. I have dealt with many if not all of these issues being addressed at some point in my professional career.

I would like to say that the Board has done a good job in putting together this Order. I know it was a difficult task to meet the demands of all interested parties. I commend the Board on all their hard work in developing this General Order.

Attached please find my comments on the Tentative Waste Discharge Requirements General Order for Existing Milk Cow Dairies.

If you have any questions or comments about my review, please feel free to contact me at (559) 268-9755 or at betsy@jmlordinc.com.

Sincerely,

Betsy K. Gerwig
Agricultural Engineer

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1. Waste Management Plans (WMP)

I think it is good to evaluate the waste containment facility and their management systems at the dairies. I do question the need to have "Registered Professionals" complete all of the evaluations of all waste systems. You are simply asking the question "Can the current system meet the minimum storage requirements?" The question does not ask for any design work. Someone with the competency to develop a Nutrient Management Plan (NMP) should be able to evaluate a waste system. The Board has already provided spreadsheets to do just that. Currently, a "Registered Professional" is not required to complete this form, which has been acceptable to the Board in the past. A "Registered Professional" should be sought out if the evaluation results in a waste system that does not meet the standards and needs modifications.

Also if a "Registered Professional" is required to develop the review, then doesn't it stand to reason that a "Registered Professional" should also be reviewing these plans? Does the Board have the manpower to provide a "Registered Professional" review 1600 reports?

2. Nutrient Management Plans (NMP)

These plans need to be working documents that reflects the production farming practices of each dairy. The plan should be flexible enough to allow for crop rotations within the plan without having to update the plan every year. Unless a farmer makes major modifications, a NMP should only need to be reviewed periodically. That would be primarily to update the plan to meet any new regulatory changes that have occurred.

3. Agronomic Sampling

Agronomic sampling should be set up so that the farmer can take the samples and deliver them to a laboratory. The data generated from these samples are not going to be used for a scientific research project. Is it really necessary for a farmer to do in-field testing of agronomic samples? The current sampling protocols defined in the Order are a bit extreme for agronomic purposes, especially for the wastewater samples. It is unlikely that a farmer will go to such lengths to get a wastewater sample. It is practical and common practice to take composite soil and dry manure samples. I also believe that the sample documentation is not realistic. Why would a farmer really need to provide more than the date, time and location the sample was taken for any agronomic sample? Remember the purpose of this sampling is to help the FARMER manage nutrient requirements as well as usage. Not to write a research paper or to develop a court case.

Timing of sampling should be relative to the waste application practices of the dairy. Some farms may only apply wastewater several times a year, while others may apply wastewater every two weeks. Why would a farmer need to take wastewater sample every 3 months if he is only applying waste two months of the year? The farmer would be sampling for the sake of sampling, not for usable knowledge. Consider the following as an example for practical sampling: waste sample is relevant for 60 days before and after the sample date. So the results would apply to any applications within that 120 day period. This way a sample is only taken when needed and meets the needs of production agriculture.

Testing parameters on all sample types should be more consistent. How can I sum the total nutrient applied if all sources are tested differently? Also, which nitrogen parameters should be used to calculate total nitrogen application for the year? I can calculate it several different ways, but what is the Board's "right" way?

Is it necessary to have such extensive sampling for irrigation water? I understand that significant amounts of nutrients can be attributed to irrigation waste, but at what point does the sampling become excessive. Depending on the number of wells a farm has, this could lead to excessive sampling. Should this sampling be included as part of the groundwater monitoring program or in addition to agronomic sampling? There is no need to duplicate samples.

In regards to soil sampling and some of the groundwater sampling, would it be possible to allow a grower to space the sampling out over a couple years, so all samples do not have to be taken during the first year as currently indicated. Also, the document is contradictory to when soil samples should be taken: once every 5 years or before and after a crop.

4. Storage Ponds & Lagoons

It is good that you have standardized the seepage requirements, which will make the designer's job easier. My concern is that there are no time limits for the Board to adhere when a reply is made. Unlike a nutrient management plan, a modification to a waste system will have a significant monetary and management impact on the dairy at the time of the modification. It is difficult to persuade any business person to invest in a waste system upgrade they may not be able to use for an unknown period while waiting on a response for the Board.

5. Record keeping

When recording freeboard, the waste system design should be considered in order to report useful information. If lagoons are connected in series, only the freeboard from the last lagoon needs to be recorded. All other ponds would flow into the last at a constant depth due to the cross over pipe. Only in a system where lagoons are used in parallel or independently would the freeboard need to be recorded in each pond.

For annual reporting, would it not be simpler for growers to fill out a 1-2 page form that summarizes the year's activities. Is it really necessary for all records to be sent to the Board for review? If a simple form is used, the Board could review records on-site for only those farms that are out of compliance. This would greatly reduce the amount of paperwork the Board staff would have to review from the 1600 dairies.

If rainfall totals are going to be recorded, why do growers need to calculate storm water volumes. The waste management plan should estimate the amount of rainfall capture for a typical year. Why do estimates need to be made on each event? Also, what is the purpose of taking storm water samples? The grower can not control what constituents are in the storm water.

There is a significant amount of record keeping and documentation requested in this General Order. It raises the question: Who benefit from the records? The records kept should be beneficial to the growers to help them manage nutrient sources and improve their facilities.

6. Implementation

Based on the current version of the Order, the Board will need to develop an extensive training system for employees, technical specialist and growers. From experience, the more complicated the rule, the more difficult the implementation. I encourage you to think ahead as you finalize this Order as to what the Board truly wants to accomplish from a realistic sense.

The Board is about to implement some radical changes for the way the dairy industry will practice business. These rules will affect every facet of the industry. Many of the changes will be completely new for the farmers. Because of this, how the Board implements this Order will greatly affect the response and results. One of the biggest things to remember is that the dairyman will have to address these issues, not regulators or environmental groups. Also, a dairyman is typically not an engineer, agronomist or a scientist; his job is to produce milk and provide a living for his family. Treating the dairyman any other way will create significant problems for all involved. A plan developed to help the dairyman do this successful is crucial to the success of the Order. Please consider my comments when developing the final draft of this General Order.